New England Deaconess Hospital
Boston, Massachusetts

pulse

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New England's first blood bank training center opens at Deaconess

The New England Deaconess Hospital Blood Bank Training Center is the first of its kind to open in New England. Approved by the American Association of Blood Banks, the training center which opened February 1 is one of 42 in the United States. The closest comparable program is in upstate New York.

Dr. Randi V. Rosvoll, pathologist in charge of the NEDH Blood Bank, is director of the new school. She works closely with Mrs. Mary Y. Mitsiu, MT (ASCP) BB, education coordinator of the program. Of the 13 full-time certified medical technologists at the Deaconess Blood Bank, Mrs. Mitsiu is the only one registered in blood banking.

Admission requirements for the NEDH Blood Bank Training School are stringent. All applicants must have a bachelor's degree and at least one year of experience in blood banking and immunohematology. Preference is given to those who are certified in medical technology by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists. Applicants who are not certified medical technologists must have biology as their major field of study in order to be considered for acceptance into the new school.

Curriculum in the 52-week program consists of lectures, seminars and practical experience in immunohematology and related fields. Specialized blood banking procedures will be taught during the students' rotations through cooperating agencies and hospitals.

After successfully completing the program, students will be eligible to take an examination given every March by the Registry of Medical Technologists of the American Society of Clinical Pathologists in cooperation with the American Association of Blood Banks. These students will be qualified for supervisory and teaching positions in their field.

There are three students in the first class. All are certified medical technologists and have several years of experience in immunohematology and blood banking.

Mrs. Mary Y. Mitsiu, medical technologist (ASCP) BB and education coordinator of the new blood bank training center, discusses the program with Dr. Randi V. Rosvoll, pathologist and director of the new school.

Employee "I.D." cards renewable

Picture identification cards are issued to Deaconess employees when they attend their assigned orientation meeting at the hospital — usually on the first Monday of employment. The expiration date on each "I.D." card is one year from the month of employment. If an employee realizes that his "I.D." card has expired, there is a very simple procedure to secure its renewal.

Every Wednesday at 3:00 p.m. outdated cards are reissued by the personnel department on Baker 1. When an employee arrives for his new "I.D." card, Miss Ruthann Brennan will ask for both his name and social security number. This information is typed on the card before the picture is taken, so employees are encouraged to arrive at the personnel department before 3:00 p.m.

If an employee's work schedule doesn't allow him to be at the personnel office at this specific time, the individual should call Miss Brennan, extension 2071, to make special arrangements for the "I.D." card updating.

Picture identification cards have a two-fold purpose. First, if an employee is challenged on the hospital premises, his card is proof of current employment at the Deaconess Hospital. Secondly, in case of a disaster or other emergency situations, the cards enable the holder to pass through police lines and continue to the hospital where his services are needed. In addition, the Deaconess identification cards may be used for check cashing purposes at area banks.

Doctors doings

Dr. Sidney Alexander, cardiology, participated in a panel discussion on coronary care units at the February 2 meeting of the Boston Chapter of the American Heart Association.

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Dr. Joseph L. Andrews, Jr., cardiopulmonary and internal medicine, was appointed director of the pulmonary laboratory at NEDH in January. He spoke on the "Treatment of Hypoxia" at Boston City Hospital, February 8, and on "Medical Care in Sweden and India," February 16, at Massachusetts General Hospital. He wrote an article on "Primary Medical Care in Sweden" for the January 1972 issue of the Lahey Clinic *Bulletin*.

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Dr. Thomas J. Anglem, general surgery, has had an article entitled "Significance of Early Diagnosis in Cancer of the Breast" accepted for publication in *Geriatrics*.

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Dr. Theodore L. Badger, pulmonary disease and internal medicine, was named the 1970 recipient of the Chadwick Medal and the 1971 honorary Massachusetts Christmas Seal Chairman at the mid-December meeting of the 65th Annual Christmas Seal Campaign, Boston. The Chadwick Medal is the highest honor of the Massachusetts Thoracic Society given to individuals who have made outstanding contributions to thoracic medicine.

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Dr. Russell S. Boles, Jr., gastroenterology, lectured on gastroenterology in Costa Rica, January 24-28.

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Dr. David P. Boyd, thoracic surgery, was elected president of the American College of Chest Physicians in October 1971. He was a visiting lecturer at the University of Guadalajara, Mexico, where he spoke on "Carcinoma of the Lung" on February 11 and "Cancer of the Esophagus" on February 12.

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Dr. Robert F. Bradley, Dr. Leo P. Krall, Dr. Alexander Marble and **Dr. Priscilla White,** internal medicine, recently completed revisions for the eleventh edition of the book, *Diabetes Mellitus*, originally written by Dr. Elliott P. Joslin.

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Dr. Bentley P. Colcock, general surgery, was made chairman of the American College of Surgeons in September 1971. From February 14-16, he attended the American College of Surgeons meeting, Chicago, as chairman of its board of governors. On February 14 he spoke on "Diverticulitis" at the California Medical Association's annual meeting, San Francisco, and on February 18 he spoke on "Diverticulitis" at Bryn Mawr Hospital, Pa. In September 1971, he published an article entitled "Modern Indications for Thyroidectomy" in the *American Journal of Surgery* and in April 1971, he published an article on "Complication of Enterocolitis" in the same journal.

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Dr. John L. Fromer, allergy and dermatology, was elected vice president of the American Academy of Dermatology for 1972.

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Dr. Charles B. Kahn, internal medicine, spoke on "Why Bother Taking Care of Your Diabetes" at the Waltham Area Diabetes Club, February 9.

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Dr. Robert E. Leber, general surgery, was named a fellow in the American College of Surgeons in September 1971.

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Dr. George Nichols, Jr., internal medicine, has taken an educational leave of absence to study at the Strangeways Laboratory, England.

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Dr. Stanley E. Order, therapeutic radiology, lectured on Hodgkin's disease at the Boston Cancer Society meeting, January 4; at the Beth Israel Hospital pathology conference, January 24; at the New England Baptist Hospital, February 4; and at Cambridge City Hospital, February 10. On January 13 and 14, he was a visiting professor at the University of Rochester, N. Y., where he spoke on "Tumor Immunology and Its Relevance," "Hodgkin's Disease Tumor Associated Antigen," "Palliative Index As a Guideline to Therapy," and "Experimental Ovarian Cancer." A visiting professor at Hahnemann Hospital, Philadelphia, Pa., November 22, Dr. Order spoke on "Tumor Associated Antigens in Hodgkin's Disease." On November 19, he spoke to the New England Roentgen Ray Society, Boston, on the same topic.

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Dr. Marshall Strome, otolaryngology, lectured at Lynn Hospital, Lynn, on "Application of Cryosurgery in the Oral Cavity" on February 10.

Chemistry laboratory known for quality control system

Since the initiation of the series on the laboratories of pathology, ***Pulse*** *has reported on anatomic pathology, microbiology and hematology. Chemistry is the sixth article about pathology's interlocking divisions.*

Chemistry processes the largest volume of samples, encompasses most of the work space in the Palmer basement and employs more medical technologists than any other division in clinical pathology. It is a pioneer in the concept of quality control and a reference laboratory for chemistry procedures in the surveys distributed by the Center for Disease Control, the College of American Pathologists and the Department of Health Education and Welfare.

About 15 years ago, Dr. Bradley E. Copeland, pathologist in charge of the chemistry laboratory, became one of the pioneers in the development of quality control. Most of his original work was done at the Deaconess in the mid 1950's, but it wasn't until 1957 that he first published the now highly esteemed concept.

Dr. Bradley E. Copeland, pathologist in charge of the chemistry laboratory, watches as Miss Anne Thompson, medical technologist, operates the flame photometer.

"Our quality control experiences were converted into a worshop that was presented at various conventions across the country," explains Dr. Copeland. The concept has since become a widely respected and implemented methodology that helps insure good patient care.

"We feel our tests should be useful to a patient for the rest of his life. There has to be a longitudinal consistency of laboratory tests so that a patient can be treated for a long-term illness and any measurements done now can be compared to the same measurement results determined, let's say, ten years ago!" asserts the doctor. "Our quality control system provides constant references."

Every six or eight weeks the Center for Disease Control, Atlanta, Georgia, distributes quality control surveys to pathology laboratories throughout the country. The chemistry division at the Deaconess is a reference laboratory in these surveys for the measurement of: glucose, creatinine, urea nitrogen, uric acid, cholesterol, triglyceride, calcium, total protein, sodium, potassium and chloride. These measurements are made on serum and other body fluids.

Quarterly surveys are also distributed by the College of American Pathologists (CAP). The chemistry laboratory participates in CAP surveys by completing a comprehensive set of questions on the complete series of chemistry procedures and by performing all regularly processed analyses as one of several reference laboratories. At the state level, the chemistry laboratory participates and serves as a reference laboratory in four surveys each year.

In addition to participation in surveys, quality control at NEDH includes: frequent calibration of the laboratory instruments, maintenance of the instruments and the use of specific controls for certain procedures. Both normal and abnormal specific control serum is purchased in lots that last for a year. Quality control limits (plus or minus two standard deviations) are established with each new lot of serum. This same serum is analyzed in about 100 other chemistry laboratories in the New England area. Each month the results are compared and every effort is made to make them comparable between hospitals.

At the Deaconess Hospital, daily rounds are made by Dr. Copeland, Mrs. Shruhan, registered chemist; and a laboratory supervisor. Rounds help to make chemistry laboratory services easily accessible to medical personnel throughout the hospital. The intensive care unit, the recovery room and as many other floors as possible are visited every day.

"Rounds are designed to help us learn about and better understand each unit's needs. Meeting with personnel on the floors gives us an opportunity to discuss problems and questions pertaining to chemistry," explains Mrs. Shruhan.

The chemistry laboratory services all requests from the Deaconess Hospital and processes some procedures for the New England Baptist Hospital. Included in the tests processed for the Baptist Hospital are: blood chemistry profiles on the 12/60 and 6/60 auto analyzers, calcium, fecal fat and xylose measurements.

Fifty-three medical technologists M.T. (ASCP), 35 other technical people, and nine clerical employees work closely with Dr. Copeland, Mrs. Shruhan, six supervisors and four rotating clinical pathology residents in chemistry. The chemistry laboratory team analyzed over 115,000 tests on patient samples in 1971; the largest volume handled in all of the clinical pathology laboratories.

"The analysis of blood sugars is the most frequently performed test in chemistry," explains Mrs. Shruhan. "There are 52 diabetics in the Hospital Teaching Unit and sometimes as many as 100 diabetics are hospitalized in the other buildings. Each one may have up to three blood sugars drawn every day."

Blood sugars are measured manually on a colorimeter. A reagent will react with heated glucose (the sugar content) to give it a blue color. The intensity of blue varies with the amount of the constituent. For example, if the blue is quite deep, this indicates that there is a high content of glucose in the blood. A photometer quantitates the color by measuring the amount of light that goes through the glucose and reagent solution.

Measurement of blood sugars can also be done automatically on the 6/60 multi-channel auto-analyzer. This instrument adds reagents to the glucose sample at the correct stages of the analysis and has a built-in heating bath and photometer. The 6/60 is capable of calculating a blood sugar reading in eight minutes; the manual procedure takes at least an hour.

Other frequently performed tests in the chemistry laboratory are enzyme measurements. Manually, these tests are read by observing rate reactions rather than color reactions — as is the case with blood sugars. At a controlled temperature, enzymes react with specific reagents by either decreasing or increasing their rate of light absorbancy. The rate of these reactions is recorded by a spectrophotometer with ultraviolet light.

In the Deaconess Chemistry Laboratory, four enzymes are measured by the rate reaction method. Test results from enymes assist physicians in their diagnosis of heart and liver conditions.

Sorting early morning blood samples for analysis is a daily procedure in the chemistry laboratory. Absorbed in their task are: (l. - r.) Miss Eleanora Buchanan, medical technologist (ASCP); Miss Diana Schotte, medical technologist (ASCP) and a laboratory supervisor, and Mr. James Murphy, chemist.

Three of these four enymes can be tested on the 12/60 auto-analyzer. Capable of performing 12 chemistry procedures, this instrument can report results in eight minutes while the manual method takes approximately one-half hour. The 12/60 has a built-in spectrophotometer and temperature control to measure the enzymes.

Busy with their work on the 12/60 and 6/60 auto-analyzers are: (l. - r.) Miss Diane Sweet, medical technologist (ASCP) and a laboratory supervisor; Miss Donna Ferguson, medical technologist (ASCP), and Mrs. Martha Hubbard, medical technologist (ASCP).

Chloride analysis is another common procedure performed in the chemistry laboratory. It may be measured in any body fluid. A silver electrode reacts with chloride at a constant rate and the reaction time determines the level of chloride in the test sample.

Practically any measurement a doctor requires for patient care can be performed in the chemistry laboratory. For example, physicians at the psychiatric unit wanted to use lithium in therapy. Before this treatment could be initiated, the doctors had to be able to monitor the level of the serum lithium. In response to the doctors' need, the Deaconess Chemistry Laboratory became one of the first in Boston to institute a method for the measurement of lithium.

Although most of the tests performed in the chemistry laboratory are done with blood serum and whole blood, many tests are performed on other body fluids. For example, urine is frequently examined in the chemistry laboratory. Urinanalysis measures specific gravity, protein and sugar content. In addition, any sediment is microscopically examined and alkaline and acid reactions are recorded. Urine analysis often provides the first clue to a disease process.

A test run on both blood and urine involves xylose, a form of crystalline sugar. This sugar is ingested by the patient to help define mal-absorption problems in the digestive system. Both blood and urine from the patient are measured for xylose content. If an excessive amount of xylose is excreted in the urine this may manifest an absorption problem. Another test for digestive mal-absorption involves the measurement of fecal fat.

Relatively new to chemistry is the blood-gas laboratory. Its measurements are vital and in constant demand during heart surgery. They are freqently needed for patients in the

(Continued on page 4)

January luncheon honors service award recipients

One way in which the Deaconess Hospital recognizes the service of its employees is by presenting them with award pins for each five years of employment. Until April 1971, these pins were distributed at an annual spring dinner. New this year, award luncheons have been held every two or three months for the pin presentation.

These luncheons personalize the award giving and supplement the recognition dinner which will be held again this year at the Sheraton Plaza Hotel.

At the January 19 buffet in the Riverview Restaurant, 20 employees received pins in recognition of their service to the Deaconess Hospital.

Both Mr. R. D. Lowry, executive vice president, and Mr. Richard E. Lee, director, greeted the award recipients and their department supervisors. Mr. Lowry expressed his gratitude to the guests of honor for their part in creating and maintaining the warmth and congeniality of the Deaconess Hospital. "A hospital isn't bricks and mortar — it's people," confirmed the executive vice president.

The five-year service award employees who attended the January 19 luncheon are: (sitting l. - r.) Mrs. Helen Adamson, housekeeping; Mrs. Barbara White, nursing service; Mrs. Sarah M. Kelley, dietary; Mrs. Mary Ellen Kresel, nursing service; (standing l. - r.) Mrs. Ruth I. Perry, administrative services; Mrs. Mary C. Fordham, administrative services; Mr. David R. McLean, maintenance; Miss Susan E. Willson, pathology; Miss Barbara A. Hurley, pathology; and Mr. Alfreds Veisbergs, maintenance. The employees are flanked by Director Richard E. Lee and Executive Vice President R. D. Lowry.

Twenty-five year service award recipients are all smiles as they pose with Mr. Richard E. Lee, (l.) director, and Mr. R. D. Lowry, executive vice president. The recipients are: Miss Ruth Pendleton, surgery; Mr. Sigmund Myal, nursing service; and Miss Marguerite Kehoe, cashier.

Mr. Richard E. Lee, (l.) director, and Mr. R. D. Lowry, executive vice president, exchange greetings with the two 15-year service pin recipients: Mrs. Anna Davison, coffee shop, and Miss Shoshana Creutzberger, surgery.

Ten-year pin recipients who attended the January 19 luncheon are: Mr. Melvin T. Ward, maintenance, and Mr. Leon Dillahunt, housekeeping. They are flanked by Mr. R. D. Lowry, executive vice president, and Mr. Richard E. Lee, director.

Director Richard E. Lee (left) and Executive Vice President R. D. Lowry, pose with the 20-year service pin recipients. They are: (ctr. l. - r.) Mrs. Eve Schandelmayer, maintenance; Mrs. Suzanne M. Fountaine, dietary; and Mrs. Elizabeth Sampson, housekeeping.

Miss Langone receives CRI promotion

Miss Constance Langone, secretary at the Cancer Research Institute since 1965, was named assistant research business manager of the institute in late January. Although her past responsibilities included accounting and bookkeeping procedures for the research business office, Miss Langone's duties will greatly expand during the next few months.

Miss Connie Langone

Some of her new duties will include: business aspects of grant and contract administration, fiscal and progress reports, and budget and financial applications. Miss Langone will assist principal investigators with grant applications and progress reports, provide a liaison between grant supported personnel and other NEDH departments, and will coordinate administrative functions of research activities with principal investigators in the hospital. She will become increasingly involved in negotiations with federal and private granting agencies.

In 1964, Miss Langone graduated from the executive secretarial program at Aquinas Junior College, Milton. A resident of Hyde Park, she lives with her parents and two of three brothers. Miss Langone enjoys skiing in the winter, visiting the beaches during the summer and sewing throughout the year.

Deaconess 4 opens for Norwich House patients

Construction projects continue at the hospital, but the focus is now on work within the Deaconess building rather than the Central building. Patients in the ambulatory psychiatric unit are scheduled to move from Norwich House to Deaconess 4 at the end of February. The new relocation will increase the unit's capacity from 19 to 27 beds. It will provide a larger recreation therapy room and a more accessible dining room than was available in Norwich House. The special area for electric shock therapy treatments will also move to the new location. Also scheduled to open in late February is the Deaconess 3 classroom.

Preliminary construction has begun on Deaconess 2 — the future site of the ambulatory service unit. Renovations currently are concentrated in the central portion of the floor which will contain examination rooms. After the ambulatory unit opens — the anticipated completion date is next June — the ambulatory units in CRI will transfer to Deaconess 2 freeing more space for the radiation therapy department.

The seven-level parking facility progresses according to schedule and projections of an early summer opening remain favorable. Cement will be poured for the fourth level of the garage by the end of February.

Down the Aisle

ENGAGED

Rhonda J. Bengtson, senior at NEDH School of Nursing, is engaged to Bernard J. Crocker, third-year student at Northeastern University.

Patricia McGrath, R.N. in the coronary care unit, plans to marry Lt. J.G. Melvin Carver of the U.S. Coast Guard on March 11.

Helen Taylor, cashier at NEDH, is engaged to marry William P. Callahan Jr., plumber, on May 6.

Mary Russell, buyer in purchasing, is engaged to **David McLeod,** supervisor of general stores and receiving. A July 4 wedding is planned.

MARRIED

Mary A. Bailey, R.N. on Palmer 4, married Hans C. Hansen III, circuit craftsman at American Telephone and Telegraph Co., September 25.

Helen R. Breiter, medical technologist, married Francis J. Fardy, employee of the New England Merchants National Bank, January 8.

Dr. Ann W. Crosson, resident at NEDH, married Dr. Abul K. Abbas, resident at Peter Bent Brigham Hospital, December 4.

Kathleen M. Gillis, 1968 graduate of NEDH School of Radiological Technology and an employee in the cardiopulmonary laboratory, married Wayne G. Lagerloef, graduate of Northeastern University, January 8.

Carol M. Mercier, medical technologist at NEDH, married Arthur J. Bugbee, employee of Wiggins Airways of Norwood, December 5.

Patrica Kelley, 1970 graduate of NEDH School of Nursing and an R.N. on Palmer 5, married Joseph J. Conway, third-year medical student at Tufts University, November 27.

> "A great many people think they are thinking when they are merely rearranging their prejudices."
>
> *William James*

Chemistry . . .

Continued from page 2

recovery room and for those who are critically ill.

Blood-gas instruments measure the oxygen saturation of blood, the carbon dioxide content of blood and the pressure of both of these gases in the blood. Since results from these instruments may manifest acidosis or alkalosis, they help the anesthesiologist better handle the patient.

The potassium level in the blood is also important during heart surgery. Action of the heart is closely related to this level and since potassium's range of deviation is quite narrow, its level is closely watched.

Other frequently performed analyses involve uric acid, total protein, serum calcium, blood urea nitrogen, creatinine, cholesterol, triglyceride and electrophroresis. Each analysis is requested as an aid in defining disease. An elevated level of uric acid manifests gout and some leukemias, a total protein level may be disturbed in the presence of tumors, and a high level of serum calcium is helpful in diagnosing parathyroid tumors.

Doctors with patients who have kidney problems request measurements of blood urea nitrogen and creatinine. When a patient is on the kidney dialysis machine, his doctor must monitor the creatinine level to help him determine how long the patient should stay on the machine.

Cholesterol and triglyceride measurements are processed for heart studies and diabetic patients. Electrophroresis makes possible the fractional study of serum protein.

Chemistry is the third of ~~six~~ five building blocks in the pillar of clinical pathology to be discussed in this continuing series on the laboratory of pathology. Each block has its unique series of analytical procedures making it a distinct member of the clinical pathology pillar. Together the anatomic and clinical pillars create the interworking network of pathology.

New England Deaconess Hospital
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pulse

The New England Deaconess Hospital is a 500-bed complex consisting of the medical office building at One Ten Francis Street, Lahey and Overholt Thoracic Clinics, the Joslin Diabetes Foundation, Inc., the Cancer Research Institute and the Shields Warren Radiation Laboratory. The Deaconess is internationally known for diagnosis, treatment and research in general medicine, brain and chest surgery, cancer and diabetes.

PULSE is published monthly by the Public Relations Department of the New England Deaconess Hospital.

R. D. Lowry
Executive Vice President
Richard E. Lee
Director
Evans F. Houghton
Public Relations Director
Anne Kreidler
Public Relations Assistant

CHEMISTRY: See article page 2.

New England Deaconess Hospital Bowling League as of 1/27/72

DIVISION A

Team No.	Pinfall to date Incl. Handicap	Pts.
3—B. Kitchen	17,900	75
1—J. Dillahunt	17,958	73
2—C. Schraub	17,912	66
4—E. O'Neil	16,347	24

High Singles for Year		High 3-String for Year	
L. Kovar	109	L. Kovar	268
Lott Murell	135	Lott Murell	355

High Average for Year	
L. Kovar	82
J. Dillahunt	104

DIVISION B

Team No.	Pinfall to date Incl. Handicap	Pts.
6—G. Graham	18,335	76
10—P. Torres	18,052	73
7—G. Lussier	18,141	70
5—A. Glagovsky	17,917	69

High Singles for Year		High 3-String for Year	
S. Meek	117	S. Meek	291
S. Breda	132	F. Walsh	342

High Average for Year	
S. Meek	93
F. Walsh	102

DIVISION C

Team No.	Pinfall to date Incl. Handicap	Pts.
8—D. Colleran	18,060	58
11—P. Cyr	17,866	50
9—G. O'Neil	17,484	46
12—C. Speen	16,299	40

High Singles for Year		High 3-String for Year	
M. Bokee	112	M. Bokee	294
M. Foley	122	M. Foley	334

High Average for Year	
M. Bokee	86
R. Peterson	96